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ORIGINAL ARTICLE

Comparison of Tramadol Versus Tramadol and Paracetamol in Post-Operative Pain Management after Cesarean Section

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ABSTRACT

Background: Multimodal technique of pain control is better than unimodal technique in perioperative time. Both tramadol and paracetamol are commonly used for pain control.
Aim: To compare the tramadol alone versus tramadol with paracetamol in pain management after C- section.
Method: 150 patients with ASA class P_1&P_2 undergoing elective cesarean section under general anesthesia were included in this study and were divided into group A & B by random number table. In both group tramadol 1mg/kg body weight intravenous was given after delivery of baby and in group B intravenous paracetamol 15 mg/kg body weight was given additionally and same doses were given in postop after 8 hours for 24 hs of post-surgery.
Result: Mean age in group A was 31.04±5.35 years and in group B it was 29.64±5.92. Mean pain score in group A was 1.19±0.81 and in group B it was 0.60±0.75. The degree of pain was low in group B and patients were more comfortable as compared to group A patients.
Conclusion: Tramadol plus paracetamol has better pain control as compared to tramadol alone.
Keywords: Tramadol, Paracetamol, Cesarean Section, VAS.

INTRODUCTION

Post-operative pain is a nightmare for patient.[1]Chronic & acute pain have important socio-economical impact[2]. Pain is a very complex phenomenon and involving different physiological pathways that is why a multimodal approach to analgesia is required to treat pain[3]. Physical activity is very easy when our patient is pain free[4]. Different medicines like ketorolac, diclofenace sodium, ketamine are used to treat post-operative pain[5,6,7]. Tramadol is very commonly used for postoperative, obstetric, gynecological and cancer pain[8]. Tramadol is used for treatment of moderate to severe pain[9]. Tramadol was first developed in Germany in late 1970s, and become available in US (Schedule IV Drug) in 2014[10]. Tramadol is centrally acting analgesic with weak μ opioid agonist effect[11,12]. It inhibits reuptake of noradrenaline and serotonin (5HT)[13]. Tramadol is a synthetic drug with cardio-protective and hepato-protective effect[14]. Metabolism of tramadol occurs in the liver[15]. Tramadol is metabolized to O-desmethyl tramadol which is also active[16]. Tramadol is also used in premedication[17]. Tramadol is also used as pre-emptive analgesia[18]. Similarly acetaminophen is used for pain management[19]. It is safe and popular pain medicine[20]. It is also use as an antipyretic drug[21]. Paracetamol is widely available for purchase without any prescription and have excellent safety profile[22]. Paracetamol is metabolized by liver and is safe and effective first line drug in patient with liver disease[23]. The current maximum recommended daily adult dose is 4 grams[24].

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MATERIAL AND METHOD

After the approval of study from hospital ethics committee 150 patients undergoing cesarean section in general anesthesia electively in anesthesia department of Hameed Latif Hospital Lahore were included and divided into two equal group A and B by using random number table. Patient's bio data was noted. Informed consent were taken. Enrolled patient were explained about the visual analog scale (VAS) of pain employed in this study. In operation theater standard II motoring was used. In both groups A & B tramadol 1mg/kg body weight intravenous was given after the delivery of baby and in group B paracetamol 15 mg/kg body weight was given additionally. Same dose was given post-operatively after 8 hours for 24 hours post-surgery. Whole information was collected on a proforma. As rescue analgesia inj nalbuphin 4mg was given to patients complaining of severe pain and such patients were omitted from study and new patients were enrolled. In group A we replaced five patients and in group B no patient was replaced. It was a randomized controlled trial and sampling technique was purposive non-probability sampling. Student t-test was applied and collected data were entered and analyzed in SPSS version 21. Sample size was 150 patients (75 in Each group) was calculated with 95 % confidence level. 90% power of test & taking expected mean ±SD of mean pain score in both groups i.e. 1.7±0.5 in tramadol group versus 1.2±0.4 in tramadol + paracetamol group.

RESULT

In group B patients there was significant decrease in pain in post-operative period and they were more comfortable as compared to group A patients regarding pain.

Table 1: Study variable (age) (n= 150)

	Pain on VAS	
	Group A	**Group B**
Mean	31.04	29.64
95% Confidence Interval for Mean		
Lower Bound	29.81	28.28
Upper Bound	32.27	31.00
Median	30.00	31.00
Std. Deviation	5.35	5.92
Minimum	18	18
Maximum	40	38

Table 2: Study variable (pain on vas) (n= 150)

	Pain on VAS	
	Group A	**Group B**
Mean	1.19	0.60
95% Confidence Interval for Mean		
Lower Bound	1.00	0.43
Upper Bound	1.37	0.77
Median	1.00	00
Std. Deviation	0.81	0.75
Minimum	0	0
Maximum	3	2

Table 3: Comparison of pain on vas between two groups (n= 150)

	Treatment Group	
	A(n-75)	**B(n=75)**
Pain on VAS	1.19±0.81	0.60±0.75

Table 4: Comparison of pain on vas between two groups for age 18-29 years (n= 45)

	Treatment Group	
	A(n-18)	**B(n=27)**
Pain on VAS	1.08±0.79	0.61±0.76

P value 0.001

Table 5: Comparison of pain on vas between two groups for age 30-40 years (n= 105)

	Treatment Group	
	A(n-57)	**B(n=48)**
Pain on VAS	1.09±0.82	0.62±0.72

P value 0.001

DISCUSSION

Cesarean Section is a common surgical procedure to save life of both mother & baby. [25]Post-operative pain is a integral part of every surgery. Pain after cesarean section impair the bond of affection and early interaction between infant and mother and mothers ability to careand feed her baby so control of pain is very important. For pain control different drugs are used like tramadol & paracetamol. In this study we compare the tramadol & combination of tramadol & paracetamol and we found that the combination of tramadol and paracetamol has good results regarding the pain control as compare to tramadol alone and this situation further clear the concept for multimodal analgesia techniques. In the study of Ambika Betal they compare the tramadol & the combination of tramadol & piroxicam and found the batter efficacy of this combination. [26] Similarly in the study of Chandanwale et al they compaired tramadol + paracetamol & diclofenac with combination of tramadol & diclofenace & found that the addition of paracetamol give batter results regarding pain control[27]. But the result of the study of Mitra et al are not in favor of my study, in their study they compare the combination of tramadol and diclofenac with tramadol & acetaminophen and found that the result of tramadol & diclofenac were better and patient were more comfortable[28]. However there is need of more trial with large number of patient for further evaluation of these issues.

CONCLUSION

Combination of tramadol & paracetamol has good pain control effects as compared to tramadol alone in post-operative patients

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